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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/615,708	07/13/2000	Kazuyoshi Mizutani	Q60118	5086

7590

09/06/2002

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EXAMINER

HAMILTON, CYNTHIA

ART UNIT

PAPER NUMBER

1752

DATE MAILED: 09/06/2002

13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/615,708

Applicant(s)

MIZUTANI ET AL.

Examiner

Cynthia Hamilton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08/19/02.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12, 14-19, 21 and 24 is/are pending in the application.
- 4a) Of the above claim(s) 24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-15, 18-19 is/are rejected.
- 7) ☒ Claim(s) 14, 15 and 21 is/are objected to.
- 8) ☒ Claim(s) 12, 14-19, 21 and 24 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 08/997,383.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Applicant's request for reconsideration of generic nature of claims 14-19 and 24 has been fully reviewed. The examiner has taken this argument to be a traversal of the restriction, since applicants argue, indirectly, that the examiner incorrectly identified claims 14-19 as belonging to species (c) Paper No. 4. Claim 12 was considered generic from the beginning. Claims 14-15 are no longer a subspecies of claim 12 due to cancellation of formula (IX) in claim 12. Formula (XXIV) is a subspecies of formula (IX). Thus, the genus of claim 12 now overlaps with the genus of claim 14. However, applicants arguments that claims 14-19 should remain generic along with claim 12 with respect to the species of the election requirement is held valid. Claims 12 and 14-19 are generic to the species (a), (b) and (c) set forth. New rejections set forth for claims 14-19 should have been made on the first action on the merits since claims 14-19 link the elected species as well. **Therefore, since the following rejections should have been made in the Office Action of July 23, finality of the last Office Action is withdrawn in order that they be made.** Claim 24 was withdrawn properly as being drawn to another Group in Paper No. 7, mailed July 23, 2002. It made up a separate group and is, thus, not part of the election of species requirement. Applicants' arguments with respect to Markush groups are not relevant to the election of species (a), (b) and (c) since this is based upon a truly generic issue, i.e. the addition or non addition of components to the generic claims. The election of a Markush member was a secondary requirement within the generic election of A, B or C. The examiner notes that with respect to the secondary issue of the elected member of the Markush group with respect to species (a), it is no longer present in claims 12, 17-19 and 21, but it is still present in claims 14-15.

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2. Applicant's cancellation of claims 20 and 22 does not remove their substance from generic claims 12 and 14-19. Thus, allowance of any of generic claims 12 and 14-19 would encompass the material of cancelled claims 20 and 22. Applicant(s) are advised that if any claim(s) depending from or including all the limitations of an allowable generic linking claim(s) be presented in a continuation or divisional application, such claims may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Once a restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. See *In re Ziegler*, 44 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01. Applicants have not chosen to limit all their claims to the elected species of (A).

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 14-15 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 14-15 are no longer properly dependent upon claim 12 because of the inclusion in claims 14-15 of formula (XXIV). There is no corresponding generic formula in claim 12. Thus, dependence on claim 12 is improper. The link with claim 12 is that X_1 , X_2 , Z_1 , Z_2 , m , n and A_1 remain the same in each claim. Thus, original claims 14-15 were only

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incidentally dependent upon original claim 12 because original claim 12 had generic formulas to each of the narrower formulas of claims 14-15. This is an improper form of dependency. The entire invention of claims 14-15 should be dependent upon the invention of claim 12. It is now clear that the language originally used was not proper after amendment of claim 12 removed any question of proper dependency.

6. Claim 21 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The composition of claim 21 is made dependent upon claim 12 only through the polymer of claim 12 and not through the entire content of claim 12, i.e. the bottom anti-reflective coating material composition of claim 12. This problem was brought to light in considering claim 12 and 14 in the preceding paragraph. The wording in claim 21, "a polymer light absorbent claimed in claim 12 does not require the entire bottom anti-reflective coating material of claim 12 be present. The examiner notes that because the composition of claim 12 requires no further component than the polymer then essentially the composition of claim 21 is a subspecies of the composition of claim 12 but were further components added to claim 12 in an amendment this would no longer be necessarily so. The examiner has examined claim 21 in its entirety at this point as it is written, so there is no question of "unexamining" claim 21. The objection is one of how the claim has been written. Applicants may write an independent claim 21 or make claim 21 properly dependent by writing claim 21 as

"A bottom anti-reflective coating material composition as claimed in claim 12
comprising

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(a) said polymer light absorbent: and

(b) a melamine, guanamine, glycoluril or urea compound substituted by at least one substituent selected from an methylol group, an alkoxymethyl group and an acyloxymethyl group."

7. Claim 14 is objected to because of the following informalities: Between formula (XXV) and (XXVI) is [(some Japanese symbol) 1 8]. This marking does not make sense here and is seen as an artifact of the translation of the original foreign document into English. It needs to be removed. Appropriate correction is required.

8. Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 15, the definition of Y' is indefinite because the meaning of "may partially have one or more of" with respect to a group of linking groups. What is meant here by "partially" is unclear. Does this mean that not all of -O- is needed in some fashion or does this mean that Y' is not always the same within one polymer or does it mean something else entirely? The use of "may" is the same as saying Y' does not have to have any of the listed choices. Thus, the limits of claim 15 are unclear with respect to Y'.

9. Claims 18-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 18, third line from the bottom, what is meant by "functional" in "organic functional group" is unclear. What function is being required present by this claim language and how does the functionality limit B₁. This is not clear from the claim language. The examiner notes that with respect to instant claim 19 the product obtained by the process limitation for the

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formation of B₁ is limited to B₁ structures set forth in claim 18 since claim 19 is dependent upon claim 18. The examiner notes that every reaction groups except formalin would also be included as a possible B₁ group in claim 18.

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(c) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 14-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Mizutani et al (6,090,531). With respect to instant claims 14-15, the compositions of Mizutani et al anticipate

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the instant compositions wherein the polymers chosen as set forth in col. 3, lines 14-55 for A is A-9 ($Z_2 = \text{OH}$, $n = 0$ and $m = 1$), or A-22 ($Z_2 = -\text{OCH}_3$, $n = 0$ and $m = 1$) or for B is B-9 ($Z_2 = \text{OH}$, $n = 0$ and $m = 1$). These polymers read on instant formula IX. The compositions of Mizutani et al anticipate the compositions of instant claim 14, formula IX wherein the polymer chosen as set forth in col. 3, lines 59-col. 4, lines 24, is B16 ($Z_2 = \text{OH}$, $n = 0$ and $m = 1$) or B17 ($Z_2 = -\text{OCH}_3$, $n = 0$ and $m = 1$). Since only one choice, that of either Polymer A or polymer B is made for each disclosed anti-reflective coating material, these compositions are held anticipatory in view of the small choice of specific detailed species for each polymer. Also, the polymer alone anticipates the instant compositions since no other component is necessary.

13. Claims 14-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Teuscher (3,943,108). The polymer of Teuscher's Examples III-VII wherein (e) or (d) from the top of col. 7 are reacted to form polymeric compounds that are cast as solutions anticipate the instant compositions of claims 14-15 wherein formula XXIV is used and $X_1 = \text{H}$, $n = 0$, $m = 0$ $X_2 = \text{H}$.

14. Claims 14-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Unruh et al (2,716,103). Unruh et al's composition of Example 14 as amplified by the reaction scheme in col. 1-2 clearly anticipates the instant polymer composition of Formula XXIV wherein X_2 and $X_1 + \text{H}$, $n = 0$ and $m = 0$.

15. Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Unruh et al (2,716,103). The polymers of Unruh et al as set forth in col. 1-2 wherein R' is taught to be chosen as Beta or alpha naphthyl, unsubstituted or substituted with methoxy, phenoxy or hydroxy groups with respect to instant Formula XXIV make obvious the instant compositions

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because they are obvious to make into light sensitive polymers useful in photomechanical processes as taught by Unruh et al.

16. Claims 14-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Unruh et al (2,716,097). Unruh et al's compositions wherein R1 is represented by alpha or beta naphthyl with or without substitution as set forth in col. 1-2 (especially noting col. 2, lines 57-59) anticipated the instant polymer composition wherein in claims 14-15, polymer, formula XXIV, is selected.

17. In reply to applicants' arguments with respect to Skoultchi et al and the meaning of substituent, the examiner concurs with applicant's position noting such a definition limits the instant exemplified polymers of claim 12 to (40) and (41) on page 57 of the instant specification. The examiner notes that the only claims still containing the ultimate species elected inclusive of polymer and second component are claims 14-15. The ultimate species elected was (36) on page 56.

18. Claims 12, 14-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Watanabe et al (5,403,908). The 1- and 2- (vinyl phenyl) naphthalene polymers of Watanabe et al disclosed in col. 6, lines 44-55 anticipate the compositions of claims 12, 16-17 (formula XIII) and 14-15 (formula XXVI) wherein only a polymer is present as in instant Species (C). These polymers are particular examples of polymers used in melt molding or for materials such as electric appliances and automobiles and films that need to be melt-moldable in a wide temperature range and have excellent heat resistance. Y' and W' are single bonds, m and n are equal to zero, so Z1 and Z2 is anything or nothing because they are not there, A1 is a benzene

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ring and R1 is hydrogen. In Watanabe et al, see also the Abstract and FIELD OF TECHNOLOGY.

19. Claims 12, 14-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Machida et al (5,403,908). The 1- and 2- (vinyl phenyl) naphthalene copolymers of Machida et al disclosed in col. 6, lines 10-14, and col. 5, lines 55-64, anticipate the compositions of claims 12, 16-17 (formula XIII) and 14-15 (formula XXVI) wherein only a polymer is present as in instant Species (C). These polymers are particular examples of polymers used in melt molding or for materials such as electric appliances and automobiles and films that need to be melt-moldable in a wide temperature range and have excellent heat resistance. Y' and W' are single bonds, m and n are equal to zero, so Z1 and Z2 is anything or nothing because they are not there, A1 is a benzene ring and R1 is hydrogen. In Machida et al, see also the Abstract and THE MOST PREFERRED EMBODIMENT TO CARRY OUT THE INVENTION.

20. Claims 12, 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Machida et al (5,475,061). The 1- and 2- (vinyl phenyl) naphthalene copolymers of Machida et al disclosed in col. 6, lines 10-14, and col. 5, lines 55-64, anticipate the compositions of claims 12, 16-17 (formula XIII) and 14-15 (formula XXVI) wherein only a polymer is present as in instant Species (C).). These polymers are particular examples of polymers used in melt molding or for materials such as electric appliances and automobiles and films that need to be melt-moldable in a wide temperature range and have excellent heat resistance. Y' and W' are single bonds, m and n are equal to zero, so Z1 and Z2 is anything or nothing because they are not there, A1 is a benzene ring and R1 is hydrogen. In Machida et al, see also the Abstract and THE MOST PREFERRED EMBODIMENT TO CARRY OUT THE INVENTION. What is not

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anticipated by Machida et al, are the copolymers of claims 12, 14-18 wherein the co monomers of claim 18 are present. However, In col. 7, lines 48, of Machida et al several examples of repeating unit (II) do read on the co monomers of the instant compositions of claim 18. They are beta-ethoxyethyl acrylate, phe(n)oxylethyl acrylate, phen(n)oxy diethyl ethyl acrylate and 2-benzoxylethyl acrylate wherein the instant structure -CH₂OR₇ wherein R₇ represents a hydrocarbon group having from 1 to 20 carbons atoms and being ethyl phenyl or benzo in the example of Machida et al. Machida et al teach the copolymers of (I) and (II) as set forth in the Abstract to form styrenic copolymers having a high degree of syndiotactic configuration as well as adhesivity and compatibility with other resins. Since the vinylphenyl naphthalenes are given as examples of (I) and beta-ethoxyethyl acrylate, phe(n)oxylethyl acrylate, phen(n)oxy diethyl ethyl acrylate and 2-benzoxylethyl acrylate are each given as examples of (II) by Machida et al, then their combination into copolymers would have been prima facie for the purposes set forth by Machida et al, ie the formation of styrenic copolymers having a high degree of syndiotactic configuration as well as adhesivity and compatibility with other resins as would have been all such combinations of the disclosed monomers in the lists of (I) and (II). The motivation to combine is to form a compatible styrenic copolymer as directed by Machida et al. The species formed would read on the generic copolymer composition set forth in instant claims 12, 14-18.

21. **Claim 24 is withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim.**

Applicant timely traversed the restriction (election) requirement in Paper No. 7 and again in Paper No. 10. The examiner notes that claim 24 is drawn to a process linked to the composition of claim 12. Applicants have not traversed the separation of the process from the composition.

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They have traversed on the grounds that claim 24 is "readable on the elected species". Since the elected species is a composition, i.e. Species A as set forth in original claim 21, and not a process, the examiner does not believe that the process of claim 24 reads on the elected species. The examiner notes that the search for the process of claim 24 would not change because of the choice of polymer. The area of search is so different than that for the composition that even the addition of a component to the composition of claim 12 would not be an issue in the search for the process of claim 24. That one reason why the Examiner separated the process from the composition. Applicants arguments presented in Paper No. 10 with respect to the last Office Action and paragraph No. 6 are not to the point of why the process of claim 24 was separated from the originally presented composition claims that form the original group presented. The restriction requirement as set forth by original presentation stands.

22. Claims 12, 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yuki et al (4,473,690) in view of Morrison et al (Organic Chemistry). The organic polymers of Yuki et al as set forth in the claims and in col. 1, wherein R^1 , R^2 and/or R^3 are selected from the structure between lines 40-45 with Y_m present wherein Y is an aromatic group and m is 1 are like those of formula VXIV in instant claim 12 with the exception Y of Yuki et al is not as narrowly drawn as A_2 of applicant's claims. Y is aromatic, while A_2 is aromatic having 5 to 14 carbons with A_2 being benzene, naphthalene, anthracene or phenanthrene as aromatic carbon ring choices in instant claim 17. The most well known aromatic ring is benzene and is used by Morrison et al to define aromatic on page 318, third paragraph, "Aromatic compounds are benzene and compounds that resemble benzene in the chemical behavior. Thus, to use a benzene ring as the Y in Yuki et al would have been prima facie obvious when aromatic had been disclosed without

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further definition because benzene is the most common aromatic structure. The number of structures which make up R^1 , R^2 and/or R^3 are seen as so small that the use of any of the ones given in column 1 would have been anticipatory or in the least obviously taught by Yuki et al. With respect to instant claims 12 and 16-17. The polymers of Yuki wherein benzene or aromatic groups of less than 14 carbon atoms are used as Y_m are held obvious for the reasons above and because the smaller aromatic ringed compounds would be necessary to give room for them in such close proximity to naphthalene and the other aromatic groups present in the polymer of Yuki et al.

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gevorgyan et al (Journal of Organic Chemistry) discloses in Table 3, (6e), a monomer which if polymerized would read on the species in claim 114 as formula XXVI and in claim 12 as formula XIII. There is no indication that the monomer was polymerized. It was designed to be used in the polymeric industry there is no direction past making the monomer given. There is no possible utility for the polymer, if made, so there is no obvious reason to polymerize the monomer.

24. Claim 21 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

25. Claim 19 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims as long as the limitation set forth does not take the scope of the polymers covered beyond that set forth in claim 18.

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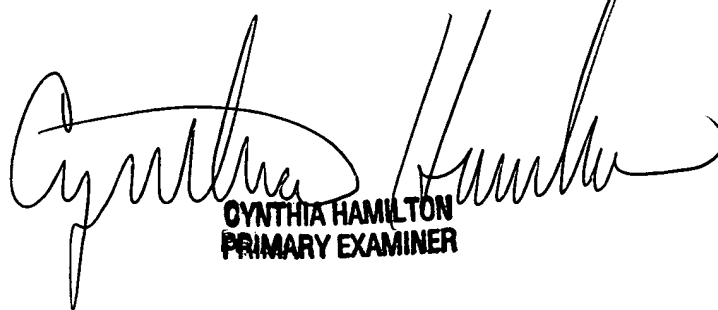
26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Hamilton whose telephone number is (703) 308-3626.

The examiner can normally be reached on Monday-Friday, 9:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Janet Baxter can be reached on (703) 308-2303. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 305 0661.

Cynthia Hamilton
August 31, 2002



**CYNTHIA HAMILTON
PRIMARY EXAMINER**